ABSTRACT OF THE DISCLOSURE

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An endovascular stent graft assembly (10) for use with abdominal aorta aneurysms (70) and having a main stent graft body (12) and a separate attachment graft tube (14) that extends proximally therefrom having the proximal attachment stent (50) thereon for infrarenal attachment of the assembly (10) to the aorta (74). A distal end portion (44) of the attachment graft tube (14) underlies the proximal end portion (30) of the main stent graft body (12) and presses outwardly there against forming a a friction fit, at an overlapping region (64). The main stent graft body (12) has an ipsilateral leg (22) and a contralateral stump (24) at the bifurcation (26); and prior to deployment of the attachment graft tube (14), the main stent graft body is pulled against the vessel bifurcation (72). After deployment of the attachment graft tube (14), the contralateral leg (16) is deployed at the contralateral stump to complete the stent graft assembly (10). Preferably, an additional intragraft stent graft tube (18) is deployed to underlie and press outwardly and support the overlapping region (64) of the attachment graft tube and the main stent graft body.